PRINTERHANDBUCH

OKI Microline 182/183

Modelle:	**ML 182/183 STD**	**ML 182/183 IBM**
Art.-Nr.:	ML 182 : 0118201	ML 182 : 0118202
Art.-Nr.:	ML 183 : 0118301	ML 183 : 0118302
Art.-Nr.:		ML 182 : 0118305(Atari)

Modell :	**ML 182 Commodore**
Art.-Nr.:	ML 182 : 0118264

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T-ONLINE/DATEX-J/Btx:	*222333#

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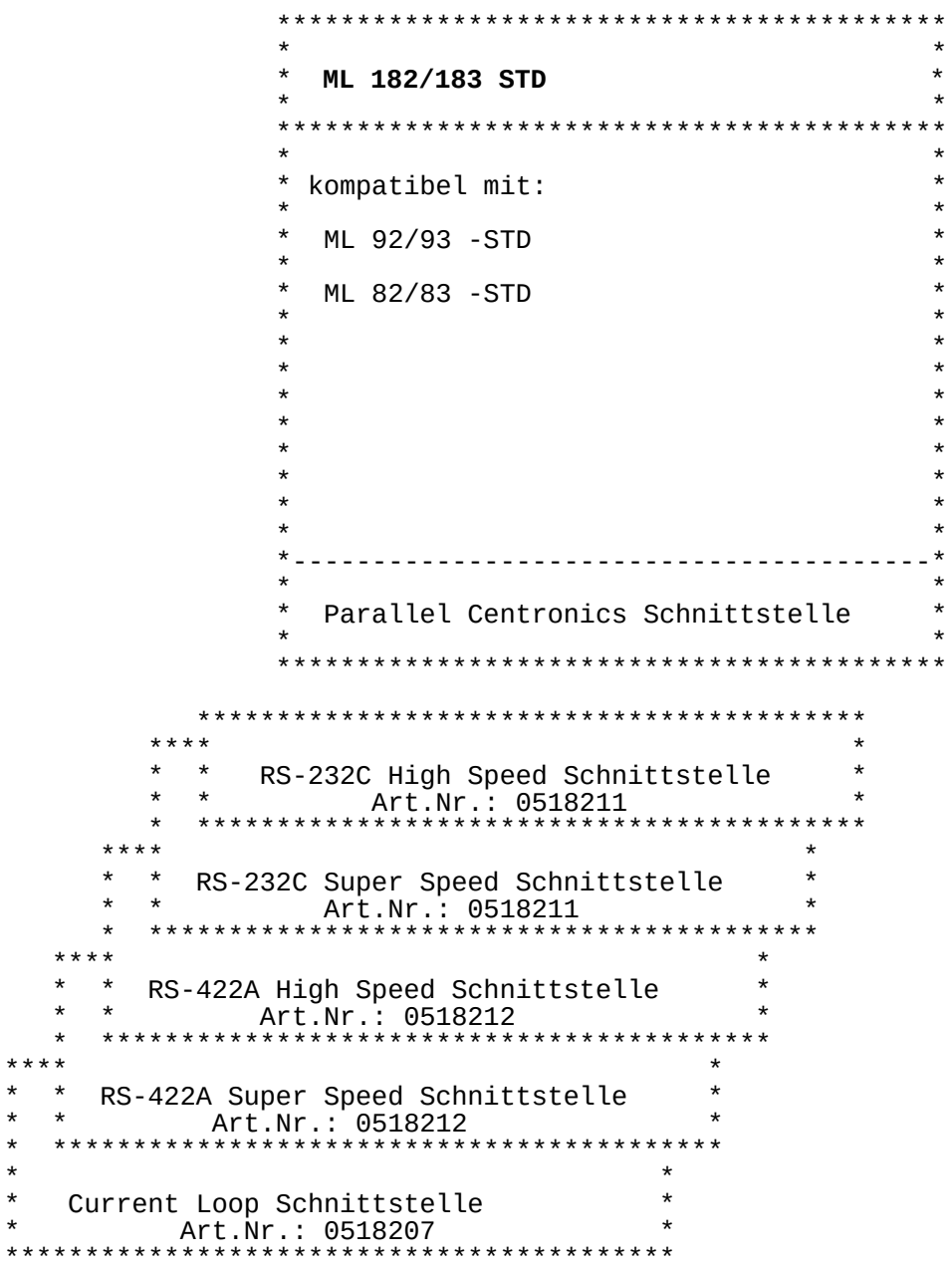
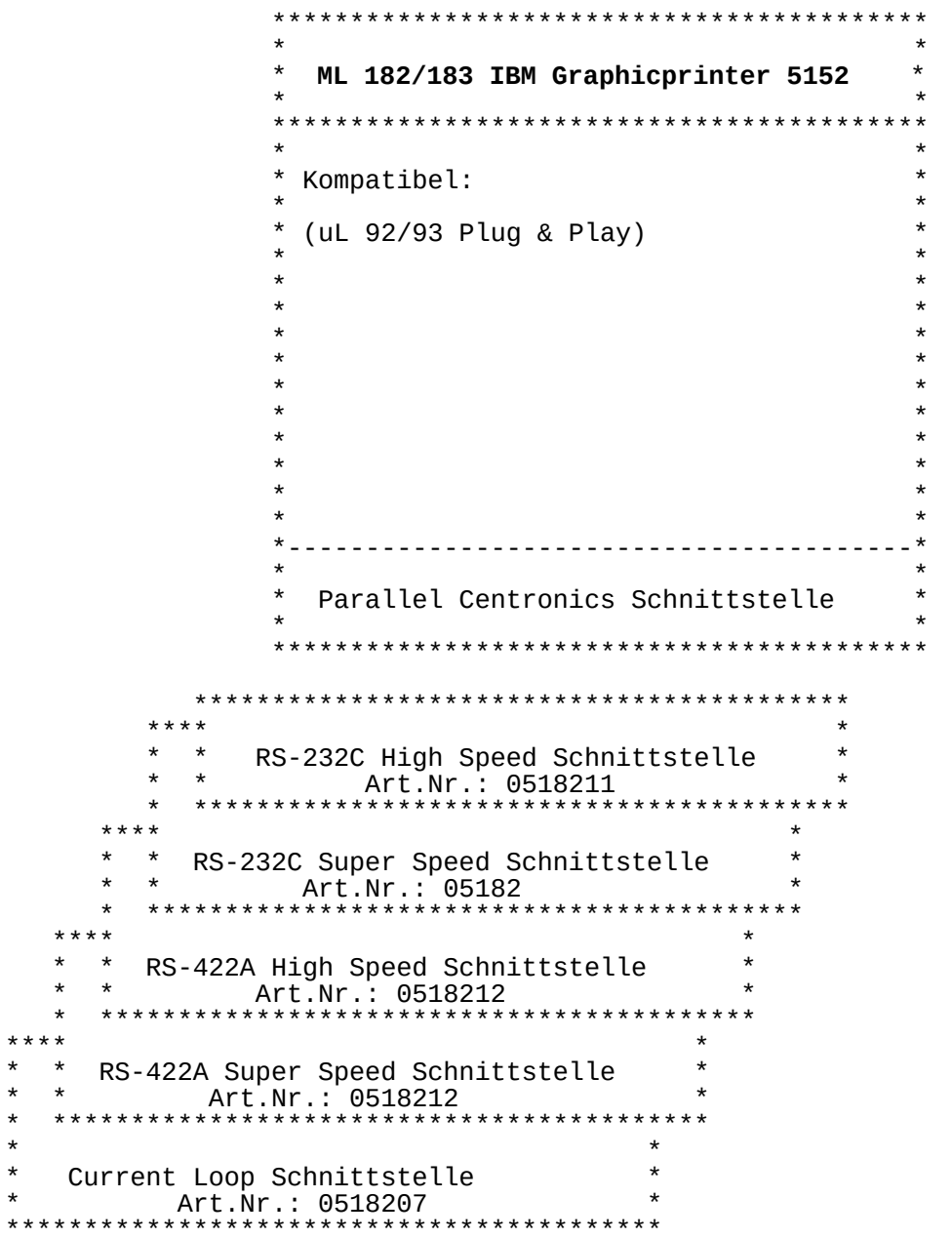

ML 182/183 STD
kompatibel mit:
ML 92/93 -STD
ML 82/83 -STD
Parallel Centronics Schnittstelle
RS-232C High Speed Schnittstelle
Art.Nr.: 0518211
RS-232C Super Speed Schnittstelle
Art.Nr.: 0518211
RS-422A High Speed Schnittstelle
Art.Nr.: 0518212
RS-422A Super Speed Schnittstelle
Art.Nr.: 0518212
Current Loop Schnittstelle
Art.Nr.: 0518207

FUNCTION	COMMENT	ASCII	HEXADCEIMAL
CHARACTER SET			
BLOCK GRAPHIC CHAR. SET		ESC ! 1	1B 21 31
NATIONAL CHARACTER SET		ESC ! n	1B 21 n
STANDARD CHARACTER SET		ESC ! 0	1B 21 30
EXECUTION			
CARRIAGE RETURN		CR	0D
CLEAR BUFFER,SET DEFAULTS		CAN	18
FORM FEED		FF	0C
LINE FEED		LF	0A
VAR. LINE FEED n/144"		ESC % 5 n	1B 25 35 n
FORMATTING			
DIRECT SKIP		ESC VT n1 n2	1B 0B n1 n2
FORM LENGTH BY LINES		ESC F n1 n2	1B 46 n1 n2
HORIZONTAL TABULATOR		HT	09
HTABS CLEAR		ESC HT NUL	1B 09 00
HTABS SET BY CHARACTERS	EVERY n CHARACTERS	ESC HT n	1B 09 n
MARGIN SET LEFT	BY DOT COLUMN	ESC % C n1-n3	1B 25 43 n1-n3
SKIP OVER PERFORATION	1/3", ON/OFF ONLY	ESC % S n	1B 25 53 n
TOF SET		ESC 5	1B 35
VERTICAL TABULATOR SKIP	SKIP 1 INCH	VT	0B
GRAPHICS, BIT IMAGE			
DENSITY DOUBLE		ESC R	1B 52
DENSITY SINGLE		ESC Q	1B 51
DENSITY SINGLE		ESC P	1B 50
GRAPHIC END		ETX STX	03 02
GRAPHIC LF WITHOUT CR		ETX DC4	03 14
GRAPHIC LINE FEED WITH CR		ETX SO	03 0E
GRAPHIC START		ETX	03
TEXT LINE FEED WITH CR		ETX LF	03 0A
TEXT LINE FEED WITHOUT CR		ETX DC2	03 12
LINE SPACING			
6 LPI		ESC 6	1B 36
8 LPI		ESC 8	1B 38
VAR. LINE SPACING n/144"		ESC % 9 n	1B 25 39 n
MISCELLANEOUS			
PAPER OUT SENSOR OFF		ESC E 1	1B 45 31
PAPER OUT SENSOR ON		ESC E 0	1B 45 30
PRINT BIDIRECTIONAL		ESC =	1B 3D
PRINT UNIDIRECTIONAL		ESC -	1B 2D

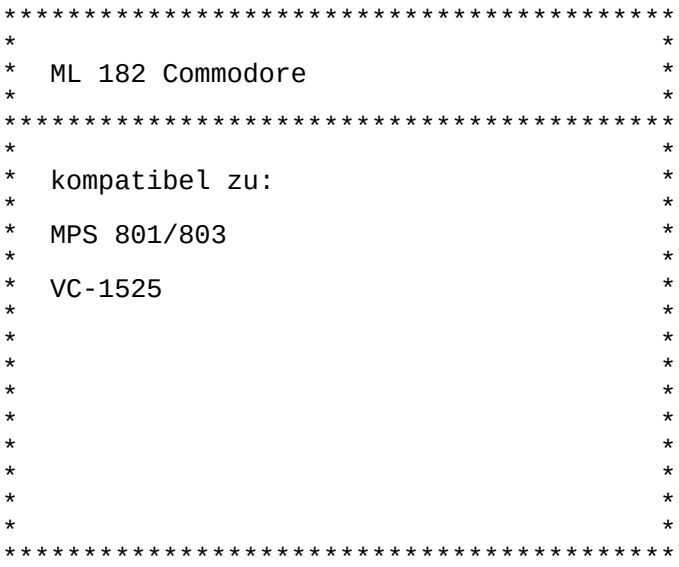
FUNCTION	COMMENT	ASCII	HEXADCEIMAL
PRINT MODE			
10 CPI	PICA	RS	1E
12 CPI	ELITE	FS	1C
17 CPI	CONDENSED	GS	1D
DESIGNATES NLQ MODE		ESC 1	1B 31
DESIGNATES UTILITY MODE	UTILITY MODE	ESC 0	1B 30
DOUBLE WIDTH	USED WITH RS,FS,GS	US	1F
EMPHASIZED OFF	ALSO ENHANCED OFF	ESC I	1B 49
EMPHASIZED ON		ESC T	1B 54
ENHANCED OFF	ALSO EMPHASIZED OFF	ESC I	1B 49
ENHANCED ON		ESC H	1B 48
SUBSCRIPT OFF		ESC M	1B 4D
SUBSCRIPT ON	STOPS ALSO SUPERSCRIPT	ESC L	1B 4C
SUPERSCRIPT OFF		ESC K	1B 4B
SUPERSCRIPT ON	STOPS ALSO SUBSCRIPT	ESC J	1B 4A
UNDERLINE OFF		ESC D	1B 44
UNDERLINE ON		ESC C	1B 43


ML 182/183 IBM Graphicprinter 5152
Kompatibel:
(uL 92/93 Plug & Play)
Parallel Centronics Schnittstelle
RS-232C High Speed Schnittstelle
Art.Nr.: 0518211
RS-232C Super Speed Schnittstelle
Art.Nr.: 05182
RS-422A High Speed Schnittstelle
Art.Nr.: 0518212
RS-422A Super Speed Schnittstelle
Art.Nr.: 0518212
Current Loop Schnittstelle
Art.Nr.: 0518207

FUNCTION	COMMENT	ASCII	HEXADECIMAL
CHARACTER SET			
IBM CHARACTER SET I		ESC 7	1B 37
IBM CHARACTER SET II		ESC 6	1B 36
EXECUTION			
CARRIAGE RETURN		CR	0D
CLEAR BUFFER		CAN	18
FORM FEED		FF	0C
LINE FEED		LF	0A
VAR. LINE FEED n/216"	ONE LINE ONLY	ESC J n	1B 4A n
FORMATTING			
FORM LENGTH BY INCHES	ALSO SETS TOF	ESC C NUL n	1B 43 00 n
FORM LENGTH BY LINES	ALSO SETS TOF	ESC C n	1B 43 n
HORIZONTAL TABULATOR	EVERY 8 CHARS.	HT	09
HTABS CLEAR		ESC D NUL	1B 44 00
HTABS SET BY CHARACTERS		ESC D n1-nk NUL	1B 44 n1-nk 00
SKIP OVER PERFORATION	BY LINES	ESC N n	1B 4E n
SKIP OVER PERFORATION OFF		ESC O	1B 4F
VERTICAL TABULATOR SKIP	SAME AS LF	VT	0B
GRAPHICS, BIT IMAGE			
DENSITY DOUBLE	120 * 72 DPI	ESC Y n1 n2	1B 59 n1 n2
DENSITY DOUBLE HALF SPEED	120 * 72 DPI	ESC L n1 n2	1B 4C n1 n2
DENSITY QUADRUPLE	240 * 72 DPI	ESC Z n1 n2	1B 5A n1 n2
DENSITY SINGLE	60 * 72 DPI	ESC K n1 n2	1B 4B n1 n2
LINE SPACING			
6 LPI	WITHOUT PREV. ESC An	ESC 2	1B 32
8 LPI		ESC 0	1B 30
ACTIVATE ESC A n SPACING		ESC 2	1B 32
LINE SPACING 7/72"	FOR 7 BIT GRAPHICS	ESC 1	1B 31
VAR. LINE SPACING n/216"		ESC 3 n	1B 33 n
VAR. LINE SPACING n/72"	ESC.2 MUST FOLLOW !!	ESC A n	1B 41 n
MISCELLANEOUS			
PAPER OUT SENSOR OFF		ESC 8	1B 38
PAPER OUT SENSOR ON		ESC 9	1B 39

FUNCTION	COMMENT	ASCII	HEXADECIMAL
PRINT MODE			
10 CPI	PICA	DC2	12
12 CPI	ELITE	ESC :	1B 3A
17 CPI	FINE	SI	0F
DESIGNATES ENHANCED MODE		ESC I 2	1B 49 32
DESIGNATES NLQ MODE	NEAR LETTER QUALITY	ESC I 3	1B 49 33
DESIGNATES UTILITY MODE	UTILITY MODE	ESC I 1	1B 49 31
EMPHASIZED OFF		ESC F	1B 46
EMPHASIZED ON		ESC E	1B 45
ENHANCED OFF	DOUBLE STRIKE	ESC H	1B 48
ENHANCED ON	DOUBLE STRIKE	ESC G	1B 47
SUBSCRIPT OFF	ALSO SUPERSCRIPT OFF	ESC T	1B 54
SUBSCRIPT ON	SOH OR ANY ODD NO.	ESC S 1	1B 53 31
SUPERSCRIPT OFF	ALSO SUBSCRIPT OFF	ESC T	1B 54
SUPERSCRIPT ON	NUL OR ANY EVEN NO.	ESC S 0	1B 53 30
UNDERLINE OFF	UNDERSCORE	ESC - 0	1B 2D 30
UNDERLINE ON	UNDERSCORE	ESC - 1	1B 2D 31
WIDTH DOUBLE	FOR ONE LINE ONLY	SO	0E
WIDTH DOUBLE OFF		ESC W 0	1B 57 30
WIDTH DOUBLE OFF	BEFORE END OF LINE	DC4	14
WIDTH DOUBLE ON		ESC W 1	1B 57 31

Note: Die Besonderheit der Atari-Version liegt darin, dass im IBM-Characterset II der Character 158 '£'ersetzt wurde durch den deutschen Character sz = 'ß'.


ML 182 Commodore
kompatibel zu:
MPS 801/803
VC-1525

FUNCTION	COMMENT	ASCII	HEXADECIMAL
CHARACTER SET			
CURSOR DOWN MODE	BASIC COMMAND	OPEN 1,4,7	-
CURSOR DOWN MODE	SMALL + CAPITAL CHRS	DC1	11
CURSOR UP MODE	CAPITAL + GRAPH.CHRS	CURSOR UP	91
CURSOR UP MODE	BASIC COMMAND	OPEN 1,4,0	-
NATIONAL CHARACTER SET	n = 64 ... 73 dec	ESC ! n	1B 21 n
EXECUTION			
CARRIAGE RETURN	WITH LF	CR	0D
CARRIAGE RETURN	WITHOUT LF	CR w/o LF	8D
FORM FEED		FF	0C
LINE FEED		LF	0A
SET DEFAULTS		CAN	18
FORMATTING			
FORM LENGTH BY LINES		ESC F n1 n2	1B 46 n1 n2
MARGIN SET LEFT	BY DOTS	ESC POS n1 n2	1B 10 n1 n2
MARGIN SET LEFT	BY CHARACTERS	POS n1 n2	10 n1 n2
SKIP OVER PERFORATION OFF	* = ALSO ESC.b	ESC B	1B 42
SKIP OVER PERFORATION ON	* = ALSO ESC.a	ESC A	1B 41
GRAPHICS, BIT IMAGE			
DENSITY HIGH	120H * 72V COMMGRAPH	ESC Q	1B 51
DENSITY NORMAL	60H * 72V COMMGRAPH	ESC P	1B 50
GRAPHIC END	(COMMODORE-GRAPHICS)	SI	0F
GRAPHIC START	(COMMODORE-GRAPHICS)	BS	08
REPEAT GRAPHIC n TIMES	(COMMODORE-GRAPHICS)	SUB n	1A n
LINE SPACING			
6 LPI		ESC 6	1B 36
8 LPI		ESC 8	1B 38
VARIABLE LINE FEED	IN /144"	ESC LF n	1B 0A n
MISCELLANEOUS			
CTRL-CODES TO PRINT.CHARS	DISABLED BY LF + CR	FCUT	22
PAPER OUT SENSOR OFF		ESC E SOH	1B 45 01
PAPER OUT SENSOR ON		ESC E NUL	1B 45 00
RESET PRINTER	BASIC COMMAND	OPEN 1,4,10	-

PRINT MODE
==========

10 CPI	PICA	SI	0F
12 CPI	ELITE	FS	1C
17 CPI	FINE (CONDENSED)	GS	1D
DESIGNATES NLQ MODE		ESC 1	1B 31
DESIGNATES UTILITY MODE		ESC 0	1B 30
DOUBLE WIDTH OFF	HIGH ASCII CHARACTER		81
DOUBLE WIDTH ON	USED WITH SI,FS,GS	SO	0E
EMPHASIZED OFF	ALSO ENHANCED OFF	ESC I	1B 49
EMPHASIZED ON		ESC T	1B 54
ENHANCED OFF	ALSO EMPHASIZED OFF	ESC I	1B 49
ENHANCED ON		ESC H	1B 48
REVERSE PRINT OFF	BLACK CHRS. ON WHITE	RVS OFF	92
REVERSE PRINT ON	WHITE CHRS. ON BLACK	RVS ON (DC2)	12
SUBSCRIPT OFF	* = ALSO ESC m	ESC M	1B 4D
SUBSCRIPT ON	* = ALSO ESC l	ESC L	1B 4C
SUPERSCRIPT OFF	* = ALSO ESC k	ESC K	1B 4B
SUPERSCRIPT ON	* = ALSO ESC j	ESC J	1B 4A
UNDERLINE OFF	* = ASLO ESC d	ESC D	1B 44
UNDERLINE ON	* = ALSO ESC c	ESC C	1B 43

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Current Loop IF	Seite: 23-26
Commodore C64 IF	Seite: 27

Aufrüstung auf ML182 Elite unter folgenden Voraussetzungen:

Zwingend notwendig die Platine PCB-15, nur dann können die Eproms getauscht werden.

Bis Rev. 7 keine Jumper eingelötet, daher müssen die Lötpunkte für SP1 und SP3 mit zweireihigen Jumper versehen werden.
Zusätzlich mussen die Widerstaende R 103 von 100 K-Ohm auf 10 K-Ohm und R 236 auf 0 Ohm (überbrücken) geändert werden.

ML 182 "alt"	**1 EPROM 128 Kb (64 Kb)**	**SP1 (2 Pin) gesteckt** **SP3 (2 Pin) nicht gesteckt**
ML 182 Elite	1 EPROM 256 Kb	SP1 (2 Pin) nicht gesteckt SP3 (2 Pin) gesteckt

Die übrigen Jumper bleiben unverändert:

SP4	**2 Pin**	**gesteckt**	**+5 Volt an Pin 18 aktiv**
SP5	**3 Pin**	**Seite B**	**AUTO FEED XT (Pin 14)**
SP6	**2 Pin**	**gesteckt**	**I-PRIME Signal (Pin 31) aktiv**

Sollten Sie unter den oben genannten Vorraussetzungen also umrüsten wollen, benötigen Sie ein neues EPROM und das dazu gehörende Handbuch. Beides können Sie über unsere Vertriebsabteilung beziehen.

Centronics-Parallel Interface

36-poliges Interface

$\overline{\text{Strobe}}$	-->	**o** 1	19 **o** ---	GND/0V	
D0	-->	**o** 2	20 **o** ---	GND/0V	
D1	-->	**o** 3	21 **o** ---	GND/0V	
D2	-->	**o** 4	22 **o** ---	GND/0V	
D3	-->	**o** 5	23 **o** ---	GND/0V	
D4	-->	**o** 6	24 **o** ---	GND/0V	
D5	-->	**o** 7	25 **o** ---	GND/0V	
D6	-->	**o** 8	26 **o** ---	GND/0V	
D7	-->	**o** 9	27 **o** ---	GND/0V	
$\overline{\text{ACK}}$	<--	**o** 10	28 **o** ---	GND/0V	
Busy	<--	**o** 11	29 **o** ---	GND/0V	
Paper End	<--	**o** 12	30 **o** ---	GND/0V	
Select	<--	**o** 13	31 **o** <--	$\overline{\text{Input Prime}}$ ***)	
Auto Feed *)	-->	**o** 14	32 **o** -->	$\overline{\text{Fault}}$	
		o	**o**		
GND/0V	---	**o** 16	**o**		
Shield Ground	---	**o** 17	**o**		
+5V **	<--	**o** 18	36 **o**		

--- **o** --- no direction
<-- **o** --> from Printer
--> **o** <-- to Printer

Jumper Setting for Centronics Parallel Internal Test

*) **SP5:**

	A	B
Auto Feed enable	o	o-o
Auto Feed disable	o-o	o

(Im Normalfall Position B)

) **SP4:

	A	B
+5V available	o-o	o
+5V not available	o	o-o

***) **SP6:**

	A	B
I-Prime enable	o-o	o
I-Prime disable	o	o-o

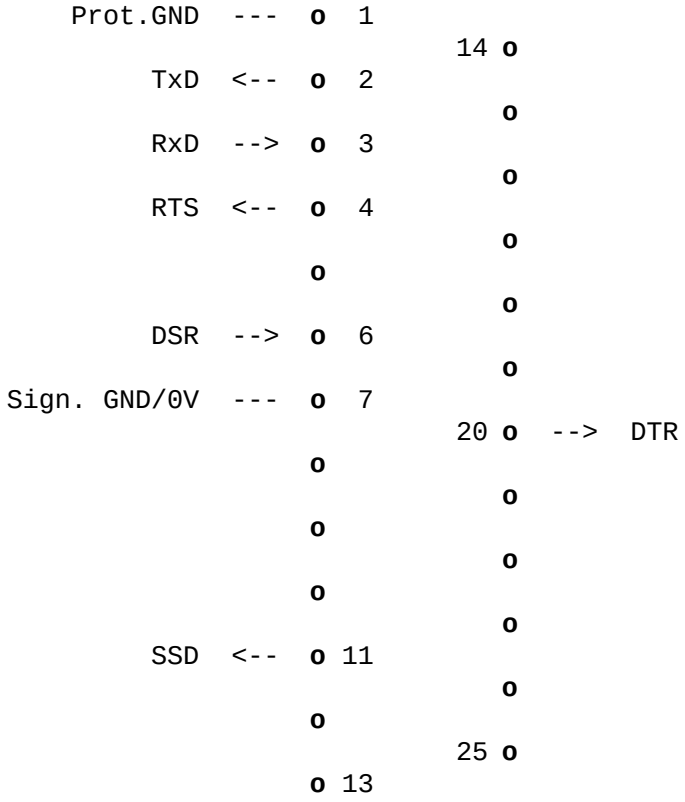
High Speed RS-232C Serial Interface Board

SWITCH 1 (SW1) (0 = OFF, 1 = ON)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | --- = Factory Setting
---------------------------------
|   |   |   |   |   |   |   0 ----- = not used, must be off
|   |   |   |   |   |   |   1 ----- = not used
|   |   |   |   |   |   0 ----- = not used, must be off
|   |   |   |   |   |   1 ----- = not used
|   |   |   |   |   0 ----- = parity disabled
|   |   |   |   |   1 ----- = parity enabled
|   |   |   |   0 ----- = not used, must be off
|   |   |   |   1 ----- = not used
|   0   0   0 ----- =  110 bps
|   1   0   0 ----- =  150 bps
|   0   1   0 ----- =  300 bps
|   1   1   0 ----- =  600 bps
|   0   0   1 ----- = 1200 bps
|   1   0   1 ----- = 2400 bps
|   0   1   1 ----- = 4800 bps
|   1   1   1 ----- = 9600 bps
0 ----- = SSD Signal: space when ready
1 ----- =             mark when ready
```

High Speed RS-232C Serial Interface Board

25-poliges Interface



---	---	no direction
<--	-->	from Printer
-->	<--	to Printer

Testplug HS RS232C

TxD	2	-->	3	RxD
RTS	4	-->	5	CTS
(DCD)	8	<--	11	SSD
DTR	20	-->	6	DSR

Super Speed RS-232C Serial Interface Board

SWITCH 1 (SW1) (0 = OFF, 1 = ON)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   0   0 ----- = BUSY on SSD/Pin 11 (+12V)
  |   |   |   |   |   |   0   1 ----- = BUSY on SSD/Pin 11 (-12V)
  |   |   |   |   |   |   1   0 ----- = BUSY on RTS/Pin 04 (-12V)
  |   |   |   |   |   |   1   1 ----- = BUSY on DTR/Pin 20 (-12V)
  |   |   |   |   0   0 ----- = Diagn. Mode/Monitor Test= HEX DUMP
  |   |   |   |   0   1 ----- = Normal Mode (for printing)
  |   |   |   |   1   0 ----- = Diagn. Mode/Circuit test (test plug)
  |   |   |   |   1   1 ----- = Normal Mode (for printing)
  |   |   |   0 ----- = Protocol: XON/XOFF
  |   |   |   1 ----- =            Ready/Busy
  |   0   0 ----- = Data bits: 7 (parity bit must be enabled)
  |   |   1 ----- =           8
  |   0 ----- = parity bit enabled
  |   1 ----- = parity bit disabled
  0 ----- = even parity
  I ----- = odd parity
```

SWITCH 2 (SW2) (0 = OFF, 1 = ON)

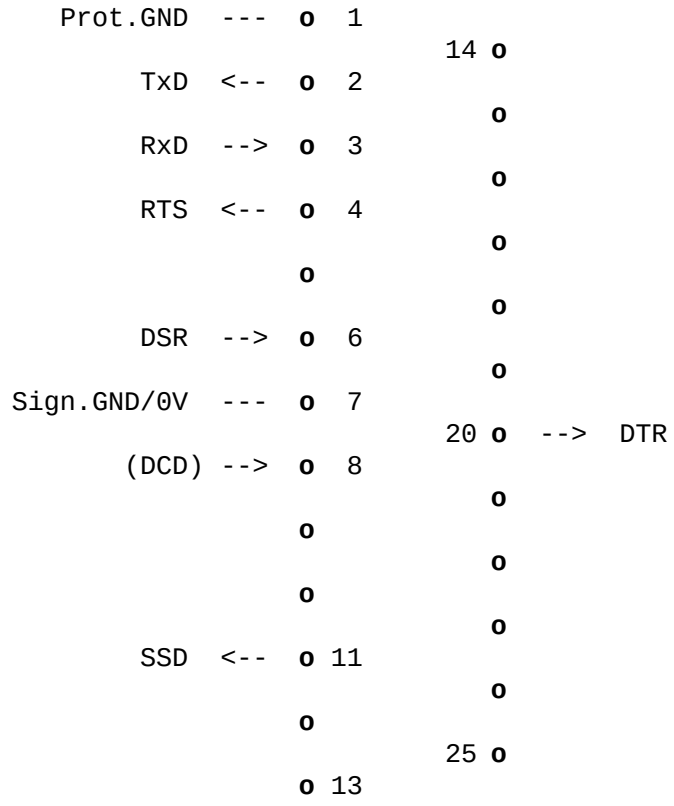
```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   |   0 ----- = not used
  |   |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   |   0 ----- = not used
  |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   0 ----- = Busy-time: (max.)   1s
  |   |   |   |   |   1 ----- =            (min.) 200ms
  |   |   |   |   0 ----- = Buffer full:  32 Byte (*)
  |   |   |   |   1 ----- =              512 Byte
  |   |   |   0 ----- = DSR disabled/passive
  |   |   |   1 ----- = DSR enabled/active
  0   0   0 ----- =    110 bps
  1   0   0 ----- =    300 bps
  0   1   0 ----- =    600 bps
  1   1   0 ----- =  1.200 bps
  0   0   1 ----- =  2.400 bps
  1   0   1 ----- =  4.800 bps
  0   1   1 ----- =  9.600 bps
  1   1   1 ----- = 19.200 bps
```

Notes:

1.) SW1 is invalid if no parity is used.
2.) Setting the data length to 7 bits with no parity is not available.

Super Speed RS-232C Serial Interface Board

25-poliges Interface




```
     ---  o  ---      no direction
     <--  o  -->      from Printer
     -->  o  <--      to Printer
```

Testplug RS232C

```
TxD   2 -->  3  RxD
RTS   4 -->  5  CTS
(DCD) 8 <-- 11  SSD
DTR  20 -->  6  DSR
```

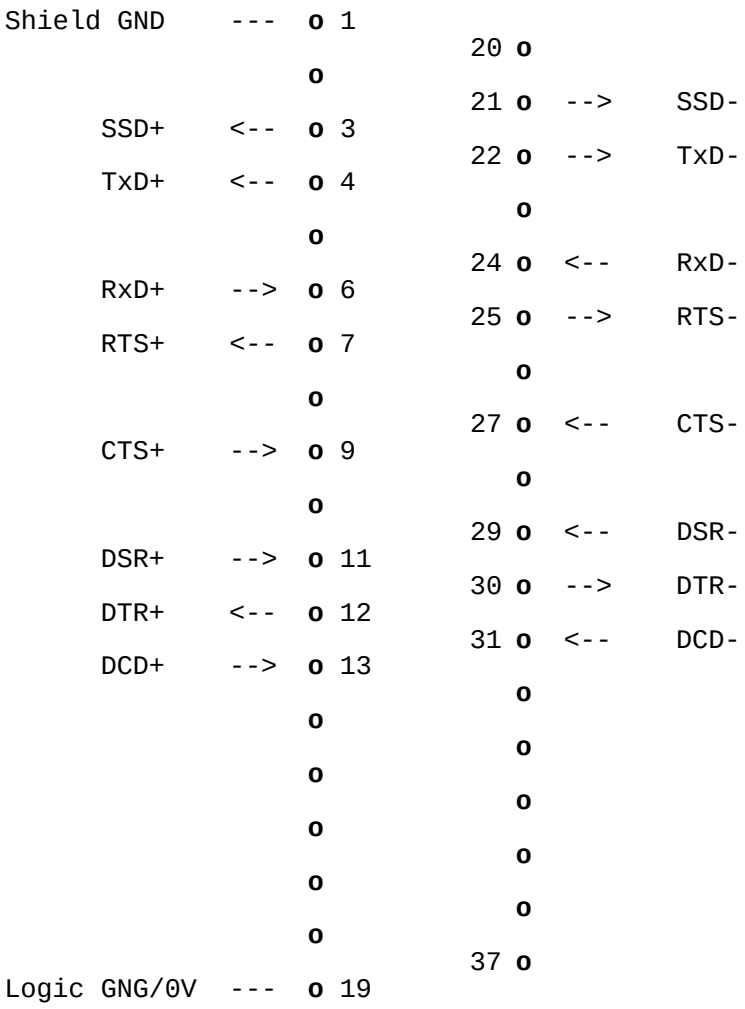
High Speed RS-422A Serial Interface Board

SWITCH 1 (SW1) (0 = OFF, 1 = ON)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   0 ----- = parity disabled
  |   |   |   |   |   1 ----- = parity enabled
  |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   1 ----- = not used
  |   0   0   0 ----- =  110 bps
  |   1   0   0 ----- =  150 bps
  |   0   1   0 ----- =  300 bps
  |   1   1   0 ----- =  600 bps
  |   0   0   1 ----- = 1200 bps
  |   1   0   1 ----- = 2400 bps
  |   0   1   1 ----- = 4800 bps
  |   1   1   1 ----- = 9600 bps
 0 ----- = SSD Signal: space when ready
 1 ----- =             mark when ready
```

High Speed RS-422A Serial Interface Board

37-poliges Interface



High Speed RS-422A Serial Interface Board

Testplug RS422A

TxD	4	-->	6	RxD
TxD	22	-->	24	RxD
RTS	7	-->	9	CTS
RTS	25	-->	27	CTS
(DCD)	13	<--	3	SSD
(DCD)	31	<--	21	SSD
DTR	12	-->	11	DSR
DTR	30	-->	29	DSR

Super Speed RS-422A Serial Interface Board

SWITCH 1 (SW1) (0 = OFF, 1 = ON)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   0   0 ----- = BUSY on SSD/Pin 3,12
  |   |   |   |   |   |   0   1 ----- = BUSY on SSD/Pin 3,12
  |   |   |   |   |   |   1   0 ----- = BUSY on RS/Pin 7,25
  |   |   |   |   |   |   1   1 ----- = BUSY on TR/Pin 12,30
  |   |   |   |   0   0 ----- = Diagnostic mode/Monitor Test=HEX DUMP
  |   |   |   |   0   1 ----- = Normal Mode (for printing)
  |   |   |   |   1   0 ----- = Diagn. Mode/Circuit test (test plug)
  |   |   |   |   1   1 ----- = Normal Mode (for printing)
  |   |   |   0 ----- = Protocol: XON/XOFF
  |   |   |   1 ----- =            Ready/Busy
  |   0   0 ----- = Data bits: 7 (parity bit must be enabled)
  |   |   1 ----- =           8
  |   0 ----- = parity bit enabled
  |   1 ----- = parity bit disabled
  0 ----- = even parity
  I ----- = odd parity
```

SWITCH 2 (SW2) (0 = OFF, 1 = ON)

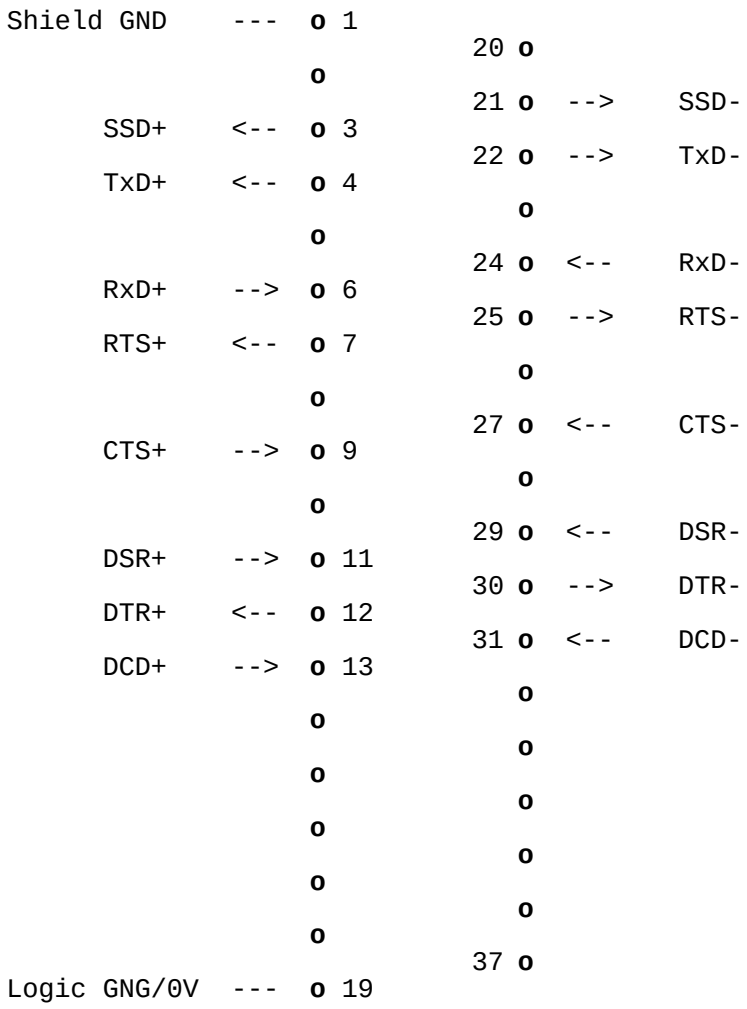
```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   0 ----- = Busy-time: (max.)   1s
  |   |   |   |   |   1 ----- =            (min.) 200ms
  |   |   |   |   0 ----- = Buffer full:  32 Byte (*)
  |   |   |   |   1 ----- =              512 Byte
  |   |   |   0 ----- = DSR disabled/passive
  |   |   |   1 ----- = DSR enabled/active
  0   0   0 ----- =    110 bps
  1   0   0 ----- =    300 bps
  0   1   0 ----- =    600 bps
  1   1   0 ----- =  1.200 bps
  0   0   1 ----- =  2.400 bps
  1   0   1 ----- =  4.800 bps
  0   1   1 ----- =  9.600 bps
  1   1   1 ----- = 19.200 bps
```

Notes:

1.) SW1 is invalid if no parity is used.
2.) Setting the data length to 7 bits with no parity is not available.

Super Speed RS-422A Serial Interface Board

37-poliges Interface



Super Speed RS-422A Serial Interface Board

Testplug

TxD	4	-->	6	RxD
TxD	22	-->	24	RxD
RTS	7	-->	9	CTS
RTS	25	-->	27	CTS
(DCD)	13	<--	3	SSD
(DCD)	31	<--	21	SSD
DTR	12	-->	11	DSR
DTR	30	-->	29	DSR

Current Loop Interface (seriell)

SWITCH 1 (SW1) (0 = OFF, 1 = ON, x = not used or don't care)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   |   0 ----- = Three-wire/four wire
  |   |   |   |   |   |   |   1 ----- = Two-wire
  |   |   |   |   |   |   0 ----- = not used
  |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   0 ----- = not used
  |   |   |   |   |   1 ----- = not used
  |   |   |   0   0 ----- = Protocol: Busy/Ready
  |   |   |   1   0 ----- =           XON/XOFF, DC1/DC3
  |   |   |   0   1 ----- = Centr. Blocked Duplex (block max. 2KB)
  |   |   |   1   1 ----- = Selftest
  |   |   0 ----- = Data bits: 7 (parity bit must be enabled)
  |   |   1 ----- =            8
  |   0 ----- = parity bit enabled
  |   1 ----- = parity bit disabled
  0 ----- = even parity
  I ----- = odd parity
```

SWITCH 2 (SW2) (0 = OFF, 1 = ON, x = not used or don't care)

```
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | x | 1 | 1 | 1 | x | --- = Factory Setting
---------------------------------
  |   |   |   |   |   |   |   0 ----- = not used, must be off
  |   |   |   |   |   |   |   1 ----- = not used
  |   |   |   |   |   |   0 ----- = Polarity of B+: MARK at Busy
  |   |   |   |   |   |   1 ----- =                 SPACE at Busy
  |   |   |   |   |   0 ----- = Busy-time: (max.)   1s
  |   |   |   |   |   1 ----- =            (min.) 200ms
  |   |   |   |   0 ----- = Buffer full:  32 Byte
  |   |   |   |   1 ----- =              512 Byte
  |   |   |   0 ----- = not used
  |   |   |   1 ----- = not used
  0   0   0 ----- =   110 bps
  1   0   0 ----- =   150 bps
  0   1   0 ----- =   300 bps
  1   1   0 ----- =   600 bps
  0   0   1 ----- = 1.200 bps
  1   0   1 ----- = 2.400 bps
  0   1   1 ----- = 4.800 bps
  1   1   1 ----- = 9.600 bps
```

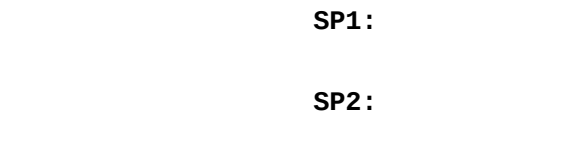
Notes:

1.) SW1 is invalid if no parity is used.
2.) Setting the data length to 7 bits with no parity is not available.

Two-Wire Connections:

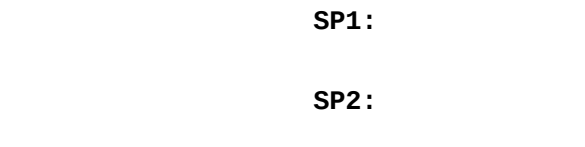
a) Current Source: System Side/Host

Used Pins: D- = pin 10 and B+ = pin 18 must be jumpered.
Used Pins: D+ = pin 9 and B- = pin 19 only.



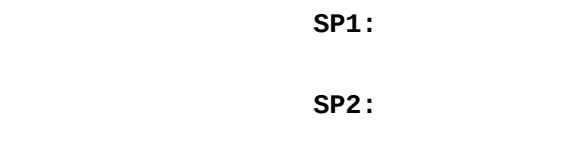
b) Current Source: Printer Side

Used Pins: D- = pin 10 and B+ = pin 18 must be jumpered.
Used Pins: B- = pin 19 and SG = pin 7 only.



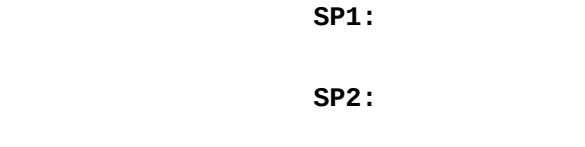
Three-Wire Connection:

Current Source: Printer Side only
Used Pins: D- = pin 10, B- = pin 19, and SG = pin 7 only.



Four-Wire Connection:

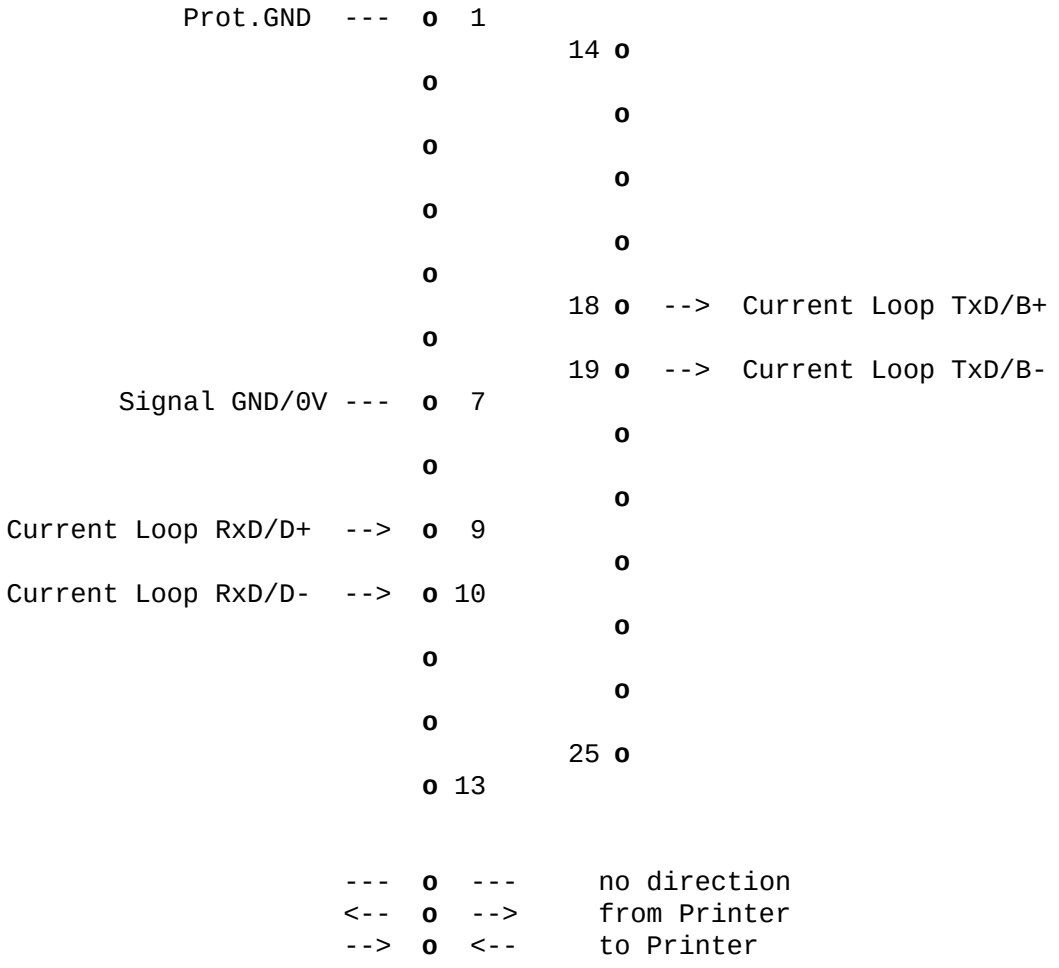
Current Source: System Side, Host only
Used Pins: D+ = pin 9, D- = pin 10, B+ = pin 18,
and D- = pin 19 only.



Remark:

- For 'Two-Wire Connections' only 'STX/ETX/ACK/NAK Handshake' possible!
- For 'Three- and Four-Wire Connections' all handshaks are supported.

25-poliges Interface



Testplug for Current Loop Internal Test
(simulates a two-/three-wire connection)

```
Current Loop RxD/D-  10 <-- 18  Current Loop TxD/B+

      Signal GND/0V   7 <-- 19  Current Loop TxD/B-
```

Jumper Setting for Current Loop Internal Test

```
    SP1:        A   B          SP2:         A   B
    RxD active  o o-o          TxD passive  o-o o
```

Switch Setting for Current Loop Internal Test

SWITCH 1 (SW1) (0 = OFF, 1 = ON, x = not used or don't care)

1	2	3	4	5	6	7	8	
x	x	x	1	1	x	x	x	--- = Self Test Setting

SWITCH 2 (SW2) (0 = OFF, 1 = ON, x = not used or don't care)

1	2	3	4	5	6	7	8	
x	x	x	x	x	x	x	x	--- = Self Test Setting

6 pin DIN TCS 4460-01-1-11 Connector

View to connector:

```
          Notch / Nase
                V
        5 o   o   o 1
        4 o 6 o 2
            o
            3
```

Request to Transmit/Sendeanforderung	o 1 -->	$\overline{SRQ}$ (not used)
	o 2 ---	GND
STATUS=low/DATA=high control signal	o 3 <->	ATN
Clock/Takt	o 4 <->	CLK
DATA/STATUS (information stream)	o 5 <->	(DATA<- / STATUS->)
RESET=low signal to printer	o 6 <--	$\overline{RESET}$

---	o ---	no direction
<--	o -->	from Printer
-->	o <--	to Printer
<->	o <->	to/from Printer

If the connector of the interface has to be removed and the Commodore cable soldered directly on the printed circuit board, the soldering points are located as follows:

View to the component side of ML182 C64 Commodore Interface:
PCB: MCL-437F, 2PU4003-5655, 4YA4042-1056

```
************************************************
* PCB component side          o 3              *
*                         2 o     o 4          *
*                     1 o             o 5      *
*                           o 6                *
************************************************
```

Note: If a ML182 (also ML182 Elite) with Centronics Interface is to be modified to Commodore version, then we recommend following modification procedure in order to minimize modifications and to allow remodification to the original version:

1. Firmware on main printer PCB has to be changed to Commodore version. (For example EPROM 65-7014 Rev.7 Q8)
2. The 6 pin DIN connector should be removed/unsoldered of Commodore Interface.
3. A Commodore C64 interface cable with one connector of type 6 pin DIN TCS 0566-01-0201 connected to one side of the cable, should be soldered with its open ends of the other side to the soldering points on the interface board.
   The pins of the cable connector have to be soldered to the soldering points of the PCB as described above.
4. The modified PCB has to be mounted in the printer as normal and the cable should be fastened by use of cable binders and glue at the 'Screw studs' P/N 2PB4025-1163P001 in order to protect the cable.